

CA-214

assigement-1(lab\_work)



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cmpica

charusat

**Q-1 /\*Write a C program to input two numbers and display the summation of two numbers\*/**

#include <stdio.h>

int main()

{

    int num1, num2, sum;

    /\*

     \* Read two numbers from user

     \*/

    printf("Enter first number: ");

    scanf("%d", &num1);

    printf("Enter second number:");

    scanf("%d", &num2);

    /\* Adding both number is simple and fundamental \*/

    sum = num1 + num2;

    /\* Prints the sum of two numbers \*/

    printf("Sum of %d and %d = %d", num1, num2, sum);n

    return 0;

}

**Q-2 Write a C program to create a menu as below,   1. Addition   2. Subtraction   3. Multiplication**

**4. Division Input choice of operation from user , and display the output.**

#include <stdio.h>

int main()

{

    int first, second, add, subtract, multiply;

    float divide;

    printf("Enter two integers\n");

    scanf("%d%d", &first, &second);

    add        = first + second;

    subtract = first - second;

    multiply = first \* second;

    divide     = first / (float)second;   //typecasting

    printf("Sum = %d\n",add);

    printf("Difference = %d\n",subtract);

    printf("Multiplication = %d\n",multiply);

    printf("Division = %.2f\n",divide);

    return 0;

}

**Q-3  /\*Write a C program to input three numbers and find maximum and minimum from these numbers\*/**

#include<stdio.h>

void main()

{

 int a,b,c;

 printf("Enter 3 numbers");

 scanf("%d%d%d",&a,&b,&c);

 if(a>b && a>c)

  printf("Mximum number is a = %d",a);

 else if(b>a && b>c)

  printf("Mximum number is b = %d",b);

 else

   printf("Mximum number is c = %d",c);

 if(a<b && a<c)

  printf("Minimum number is a = %d",a);

 else if(b<a && b<c)

  printf("Minimum number is b = %d",b);

 else

   printf("Minimum number is c = %d",c);

}

**Q-4  /\* Write a C program to input user name and display the greeting message “ Hello username”. For example user name is “Aashish” then output should be “Hello Aashish\*/**

#include<stdio.h>

#include<stdlib.h>

int main()

{

system("cls");

char name[20];

printf("\n enter your name : ");

gets(name);

printf("\n hello %s",name);

system("pause");

}

**Q-5  /\*Write a C program to find maximum and minimum number from array of n elements\*/**

include<stdio.h>

#include<stdlib.h>

int main()

{

system("cls");

int no[5],i;

for(i=0;i<5;i++){

printf("\n enter %d element : ",i+1);

scanf("%d",&no[i]);

}

For (i=0; i<5; i++) {

printf ("\n %d element is :%d",i+1,no[I]);

}

system("pause");

}

**Q-6  /\*Write a C program to find maximum and minimum number from array of n elements\*/**

#include<stdio.h>

#include<stdlib.h>

int main()

{

system("cls");

int i,n;

printf("\n enter how many element you want to enter : ");

scanf("%d",&n);

int no[n],max=no[0],min=no[0];

for(i=0;i<n;i++){

printf("\n enter %d element : ",i+1);

scanf("%d",&no[i]);

if(max<no[i])

max=no[i];

if(min>no[i])

min=no[i];

}

printf("\n max num is : %d",max);

printf("\n min num is :%d ",min);

system("pause");

}

**Q-7 /\*Write a C program to create a function to display the maximum numbers from an array of 5 elements\*/**

 #include <stdio.h>

int main()

{

    int a[1000],i,n,min,max;

    printf("Enter size of the array : ");

    scanf("%d",&n);

    printf("Enter elements in array : ");

    for(i=0; i<n; i++)

    {

        scanf("%d",&a[i]);

    }

    min=max=a[0];

    for(i=1; i<n; i++)

    {

         if(min>a[i])

  min=a[i];

   if(max<a[i])

    max=a[i];

    }

     printf("minimum of array is : %d",min);

          printf("\nmaximum of array is : %d",max);

    return 0;

}

**Q-8 /\*Write a C program to create a function to display all the odd numbers from an array of n elements\*/**

 #include <stdio.h>

int main()

{

    int i, n;

    /\* Input upper limit from user \*/

    printf("Print odd numbers till: ");

    scanf("%d", &n);

    printf("All odd numbers from 1 to %d are: \n", n);

    /\* Start loop from 1 and increment it by 1 \*/

    for(i=1; i<=n; i++)

    {

        /\* If 'i' is odd then print it \*/

        if(i%2!=0)

        {

            printf("%d\n", i);

        }

    }

    return 0;

}

**Q-9 /\* Write a C program to Create a structure student with members as studentID, name, programname, semester, and marks of 5 courses. Assign values to  two students and display all the detail including average marks of all courses for each student.**

#include <stdio.h>

struct student {

    char name[50];

    int roll;

    float marks;

} s;

int main() {

    printf("Enter information:\n");

    printf("Enter name: ");

    fgets(s.name, sizeof(s.name), stdin);

    printf("Enter roll number: ");

    scanf("%d", &s.roll);

    printf("Enter marks: ");

    scanf("%f", &s.marks);

    printf("Displaying Information:\n");

    printf("Name: ");

    printf("%s", s.name);

    printf("Roll number: %d\n", s.roll);

    printf("Marks: %.1f\n", s.marks);

    return 0;

}

**Q-10 Write a C program to update the 9th program, input the details of two students from user and display it.**

**int** main()

{

**char** text[SIZE]={0},record[100];

**char** ch;

**int**  cnt=0,len;

FILE \*fp; /\*file pointer\*/

/\*create file\*/

fp=fopen("file1.txt","w");

**if**(fp==NULL)

{

printf("Error in creating file");

**return** -1;

}

printf("Enter student details line wise (press # to save and close):\n");

**while**(1)

{

ch=getchar();

**if**(ch=='#')

{

**break**;

}

fputc(ch,fp);

}

fclose(fp); //close the file

printf("File saved successfully\n");

/\*open file\*/

fp=fopen("file1.txt","r");

**if**(fp==NULL)

{

printf("Error in opening file.\n");

**return** -1;

}

printf("Entered records are:\n");

//read content from file

cnt=0;

**while**((ch=fgetc(fp))!=EOF)

{

**if**(ch==0x0A)//check new line

{

record[cnt++]='\0';

cnt=0;

printf("%s\n", record);

**continue**;

}

record[cnt++]=ch;

    }

fclose(fp);

**return** 0;

}

**Q-11  Write a C program to update the 9th program, input the details of five students from user and display it. (user array of structure)**

#include <stdio.h>

struct student {

    char firstName[50];

    int roll;

    float marks;

} s[10];

int main() {

    int i;

    printf("Enter information of students:\n");

    // storing information

    for (i = 0; i < 5; ++i) {

        s[i].roll = i + 1;

        printf("\nFor roll number%d,\n", s[i].roll);

        printf("Enter first name: ");

        scanf("%s", s[i].firstName);

        printf("Enter marks: ");

        scanf("%f", &s[i].marks);

    }

    printf("Displaying Information:\n\n");

    // displaying information

    for (i = 0; i < 5; ++i) {

        printf("\nRoll number: %d\n", i + 1);

        printf("First name: ");

        puts(s[i].firstName);

        printf("Marks: %.1f", s[i].marks);

        printf("\n");

    }

    return 0;

}

**Q-12 Write a C program to update the 9th program, input the details of five students from user and display it using functions . (user array of structure and pass the structure in funciton)**

#include <stdio.h>

#include <string.h>

**struct** student

{

**int** id;

**char** name[20];

**float** percentage;

};

**struct** student record; // Global declaration of structure

**void** structure\_demo();

**int** main()

{

            record.id=1;

            strcpy(record.name, "Raju");

            record.percentage = 86.5;

            structure\_demo();

**return** 0;

}

**void** structure\_demo()

{

**printf**(" Id is: %d \n", record.id);

**printf**(" Name is: %s \n", record.name);

**printf**(" Percentage is: %f \n", record.percentage);

}

**Q-13 Write a C program to Create a structure address to include, street, city,state and pincode , update program 9 to include address of student, add two students details using function.**

#include <stdio.h>

struct student {

    char name[50];

    int roll;

    float marks;

} s;

int main() {

    printf("Enter information:\n");

    printf("Enter name: ");

    fgets(s.name, sizeof(s.name), stdin);

    printf("Enter roll number: ");

    scanf("%d", &s.roll);

    printf("Enter marks: ");

    scanf("%f", &s.marks);

    printf("Displaying Information:\n");

    printf("Name: ");

    printf("%s", s.name);

    printf("Roll number: %d\n", s.roll);

    printf("Marks: %.1f\n", s.marks);

    return 0;

}

**Q-14 Write a C program to swap two numbers using a function. ( use pointers).**

int main()

{

    int num1,num2;

    printf("Enter value of num1: ");

    scanf("%d",&num1);

    printf("Enter value of num2: ");

    scanf("%d",&num2);

    //displaying numbers before swapping

    printf("Before Swapping: num1 is: %d, num2 is: %d\n",num1,num2);

    //calling the user defined function swap()

    swap(&num1,&num2);

    //displaying numbers after swapping

    printf("After  Swapping: num1 is: %d, num2 is: %d\n",num1,num2);

    return 0; }

**Q-15 Write a C program to read and print employee details using structure pointer. Structure employee includes id, name and salary of employee.**

**int** main()

 {

**int** n = 3;

    // Array of structure objects

**struct** employee emp[n];

    // Details of employee 1

    emp[0].ename = "Chirag";

    emp[0].age = 24;

    emp[0].phn\_no = 1234567788;

    emp[0].salary = 20000;

    // Details of employee 2

    emp[1].ename = "Arnav";

    emp[1].age = 31;

    emp[1].phn\_no = 1234567891;

    emp[1].salary = 56000;

    // Details of employee 3

    emp[2].ename = "Shivam";

    emp[2].age = 45;

    emp[2].phn\_no = 1100661111;

    emp[2].salary = 30500;

    display(emp, n);

**return** 0;

}